

US CLAIMS:

1. A method for determining the relevance of images retrieved from a database relative to a specified visual object category, the method comprising transforming a visual object category into a model defining features of said visual object category and a spatial relationship therebetween, storing said model, comparing a set of images identified during said database search with said stored model and calculating a likelihood value relating to each image based on its correspondence with said model, and ranking said images in order of said respective likelihood values.
2. A method according to claim 1, wherein the step of comparing an image with said model includes identifying features of the image and estimating the probability densities of said parameters of those features to determine a maximum likelihood description of said image.
3. A method according to claim 2 further comprising storing said model.
4. A method according to claim 3 further comprising comparing a set of images retrieved from said database with said stored model and calculating a likelihood value relating to each image based on its correspondence with said model.
5. A method according to claim 4, further comprising ranking said images in order of said respective likelihood values; and/or retrieving further images corresponding to said specified visual object category.
6. A method according to claim 1, wherein said features comprise at least two types of parts of an object.
7. A method according to claim 6, wherein said categories include pixel patches, curve segments, corners and texture.

8. A method according to claim 1, wherein each feature is represented by one or more parameters, which parameters include its appearance and/or geometry, its scale relative to the model, and its occlusion probability.
9. A method according to claim 8, wherein said parameters are modelled by probability density functions.
10. A method according to claim 9, wherein said probability density functions comprise Gaussian probability functions.
11. A method according to claim 1, wherein said set of images is obtained during a database search.
12. A method according to claim 1, further comprising selecting a sub-set of said set of images, and creating the model from said sub-set of images.
13. A method according to claim 2, wherein substantially all of the images of said set of images are used to create the model.
14. A method according to claim 2, wherein at least two different models are created in respect of a set of images retrieved from said database.
15. A method according to claim 14, further including selecting one of said at least two models for said comparing step.
16. A method according to claim 15, wherein said selecting step is performed by calculating a differential ranking measure in respect of each model, and selecting the model having the largest differential ranking measure.
17. Apparatus for determining the relevance of images retrieved from a database relative to a specified visual object category, the apparatus comprising a processor for transforming a visual object category into a model defining features of said visual object category and a spatial relationship therebetween.

18. Apparatus for ranking, according to relevance, images of a set of images retrieved from a database relative to a specified visual object category, the being arranged and configured to a visual object category into a model defining features of said visual object category and a spatial relationship therebetween, store said model, compare a set of images identified during said database search with said stored model and calculate a likelihood value relating to each image based on its correspondence with said model, and to said images in order of said respective likelihood values.